Small Business Innovation Research/Small Business Tech Transfer

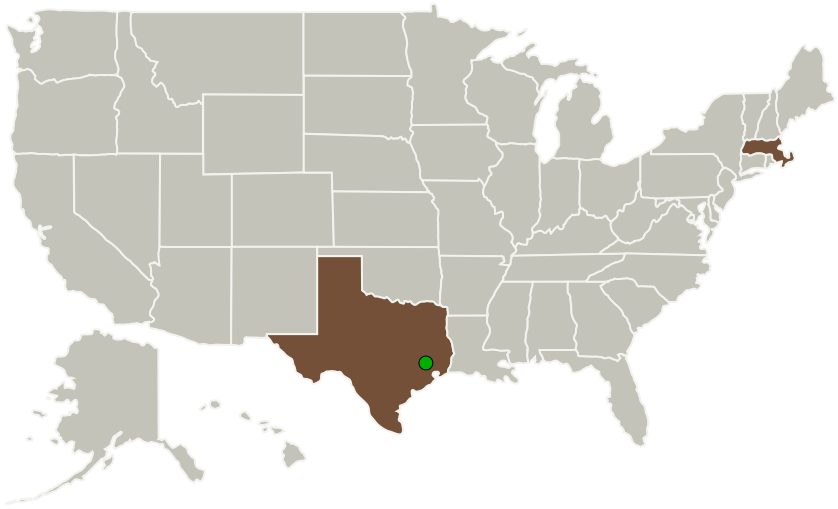
Dead-Ended Passive Electrolyzer with Elimination of Vapor/Liquid Separation for Life Support Oxygen, Phase II

Completed Technology Project (2013 - 2016)

Project Introduction

The overall technical objective of the proposed Phase II NASA program is to demonstrate the ability of the WaMM™-based static vapor feed electrolyzer to generate enough low moisture content oxygen to support the life of 5 astronauts (9.0 lbs/day). To achieve this, the stack must be designed for risk mitigation and operation in the simplified Giner system. Stack size must also increase five fold in comparison to the fifteen cell stack designed, assembled, and operated in the Phase I program. In addition GES will provide a prototype system to our Subcontractor for external testing and preparation for building a test flight article.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Giner, Inc.	Lead Organization	Industry	Newton, Massachusetts
Johnson Space Center(JSC)	Supporting Organization	NASA Center	Houston, Texas

Primary U.S. Work Locations	
Massachusetts	Texas

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Images

Briefing Chart
Dead-Ended Passive Electrolyzer with Elimination of Vapor/Liquid Separation for Life Support Oxygen, Phase II
(https://techport.nasa.gov/image/129981)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Giner, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Cortney K Mittelsteadt

Co-Investigator:

Cortney Mittelsteadt

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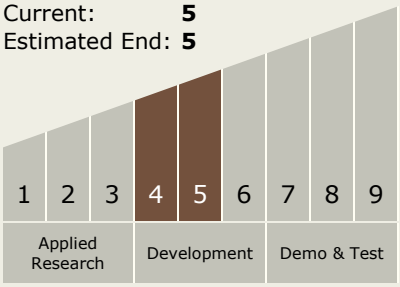
Technology Maturity (TRL)

Start: **4**
Current: **5**
Estimated End: **5**



Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.1 Environmental Control & Life Support Systems (ECLSS) and Habitation Systems
    - TX06.1.1 Atmosphere Revitalization

Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System